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PENKO Engineering B.V. When Weighing Counts

FLEX2100 specs extended





SPECIFICATIONS FLEX2100 Range	
Wiring	Full Wheatstone bridge with passive connections (6-wire system)
Sense system	Passive sense system
Excitation voltage	5VDC
Minimum bridge resistance	43.75Ω @ 5V excitation
Maximum bridge resistance	1200Ω @ 5V excitation
Number of load cells	1 channel 1 - 8 load cells 350Ω @ 5V excitation
	1 - 22 load cells 1000Ω @ 5V excitation
Sensitivity	Certified: 0.4µV minimum voltage for verification scale @ 5V excitation
	Non-certified: 0.1µV - 0.5µV @ 5V excitation
Selectable ranges	1, 1.5, 2, 2.5, 3mV/V
Input voltage unipolar @3mV/V	-1mV to 16mV
Input voltage bipolar @3mV/V	-16mV to 16mV
A/D conversion speed	1600 measurements per second
Internal resolution	24 bits
A/D converter type	Sigma-Delta, ratio metric, isolated from digital
Non linearity	< 0.005% of reading
Offset drift	< +/- 2 ppm/°C
Span drift	< +/- 2 ppm/°C
Display resolution	100,000 divisions max. (certified with 10,000 divisions)
Display step	x1, x2, x5, x10,x 20 x50, x100, x200
Decimal comma	Selectable between any digits of the display value
Digital filter	High performance digital filters 1-10Hz
Overall filter	0 to -48dB
Calibration methods	Dead load and span with up to 8 point linearization
	Millivolt calibration
	G - CAL (Gravity correction)

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Measurement functions	Automatic zero tracking, motion detection, zero, tare, preset tare, net mode, peak hold, valley hold, bar graphs, multi range, multi interval
Memory allocation	Calibration data flash, dynamic data in SRAM with battery backup
Real-time clock	Standard with rechargeable Lithium battery backup
SCREEN	
Display type	High resolution TFT LCD 640 x 480 pixels, 256 colors, high brightness 500cd/m2, high contrast 350:1
Display functions	Completely menu driven with graphical user interface
Display rate	Selectable 1, 2, 3, 5, 10 or 25 updates/s
Display filter	0, -6, -12, -18, -24, -30, -36, -42, -48dB
Display filter range	Selectable in any range of the display value
Display suppression	Selectable in any range of the display value
Status enunciators	Zero, Net, No motion, Bar graph, I/O status
Display digits	6 digits with leading zero suppression, selectable height; 9 or 18mm
Display operation	Operate, configure and calibrate via: - Front panel (touch screen) - RS232 - Ethernet - USB
Touch screen	Glass screen, 2mm of resistive type
Display size	5.7 inch (145mm)
Display material	Front foil PET 175µ
ENVIRONMENTAL	
Operating temperature	-10°C to +40°C [14°F to 104°F]
Storage temperature	-20°C to +70°C [-4°F to 158°F]
Relative humidity	Max. 85% non-condensing
APPROVALS	
Non automatic OIML R76	10,000d single or multi interval at ≥0,4µV scale interval
EU-type approval number	T 2804
Automatic MID certified	
OIML R50	Continuous totalizer beltweiger
OIML R51	Automatic catchweigher/checkweigher instrument
OIML R61	Automatic gravimetric filling instrument
OIML R107	Discontinuous totalizer

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EU-test/evaluation certificate	TC7927
EU-type approval numbers	
OIML R107	T 10301
OIML R51	T 10303
OIML R61	T 10304
ENCLOSURE PANEL MOUNT	
Material	Housing: extruded aluminum, black powder coating Front: machined aluminum, black anodized
Dimensions front (w*h*d)	260 x 191 x 5mm
Dimensions housing (w*h*d)	220 x 150 x 48mm
- panel cut out (w*h)	224 x 154mm
Weight without option boards	1700g
Mounting clips	2 mounting clips
Rubber seal	O-ring of mosrubber
Protection class	IP45 (or IP65 when built into a cabinet)
ENCLOSURE STAINLESS STEEL	
Material	Stainless steel
Dimensions front (w*h*d)	240 x 180 x 70mm
Dimensions housing (w*h*d)	280 x 200 x 70mm
Weight	2300g
Protection class	IP65
ELECTRICAL OPTIONS	
AC power supply	100 - 240VAC 50/60Hz 20W max.
DC power supply	18 - 32VDC (24VDC type) 20W max.
STANDARD COMMUNICATION PORTS	
RS232 /RS422	Plain text/ASCII printer, Zebra ZPL protocol, PENKO ASCII, PENKO NPV slave and master, PENKO TP slave and master, Modbus RTU and ASCII, Hostlink Viewteq and PLC
Ethernet	PENKO TP protocol, plain text/ASCII printer, Zebra ZPL protocol, Modbus TCP, EtherNet/IP, Omron Fins, PENKO Buslink, PENKO Web interface
USB	Reporter, PENKO ASCII, TP slave Host functionality for USB storage (FAT16) or HID class keyboard or mouse
CANBUS	PENKO Buslink

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OPTIONAL COMMUNICATION PORTS	
PROFIBUS	DP Slave
COMMUNICATION SOFTWARE	
Pi Mach II	PENKO configuration, update and backup/restore software (free)
PDI Client	PENKO configuration software (free)
Profibus	GSD file
EtherNet/IP	EDS file
STANDARD DI & DO	
8 digital inputs	Optical isolated, 1 common, 18-28VDC, PNP or NPN Input 1 can be used as: a normal input or as a counter input (<= 5kHz @ 24VDC with 50% duty cycle) Before 2018: counter input <= 1kHz, on request 5kHz. Since 2018: counter input <= 5kHz @24Vdc with 50% duty cycle.
8 digital outputs (level contact)	Isolated PhotoMOS outputs, 2 common, max. 35VDC or VAC, 0.5A nominal, 1A Surge (thermal fuse 0.5A), PNP or NPN
OPTIONAL I/O	
1 analog output	0 - 20mA, 4 - 20mA, 0 - 24mA, 4 - 24mA, RAW

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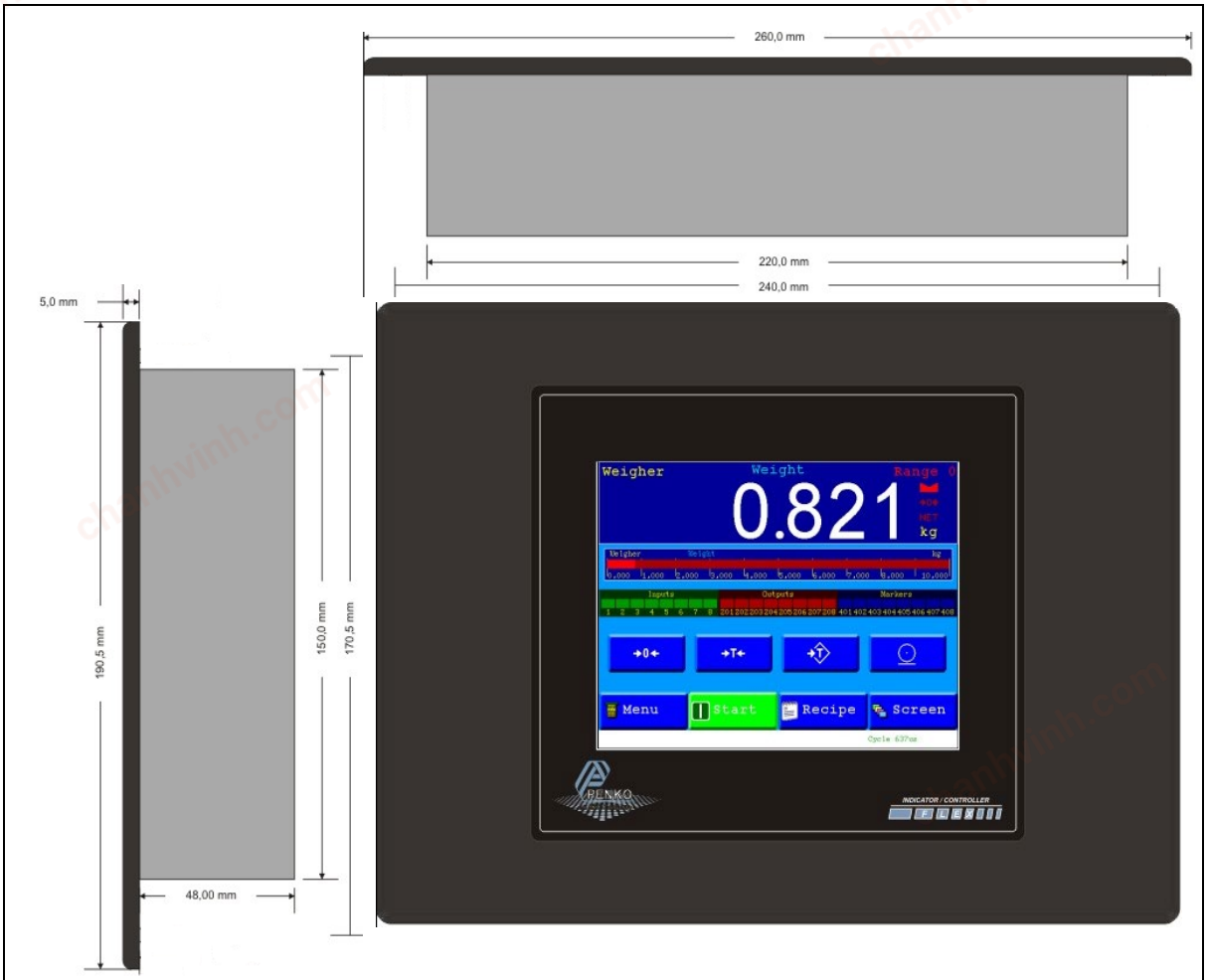

Panel mount housing	
Material housing	Extruded aluminum, black powder coating
Front machined aluminum	Black anodized
Dimensions front: W x H x D	260 x 191 x 5 mm
Dimensions housing: W x H x D	220 x 150 x 48 mm
Dimensions panel cut out	224 x 154 mm
Weight approx.	1700 g.
Mounting clips	2 mounting clips
Rubber seal	O-ring of mosrubber
Built in cabinet	IP 45

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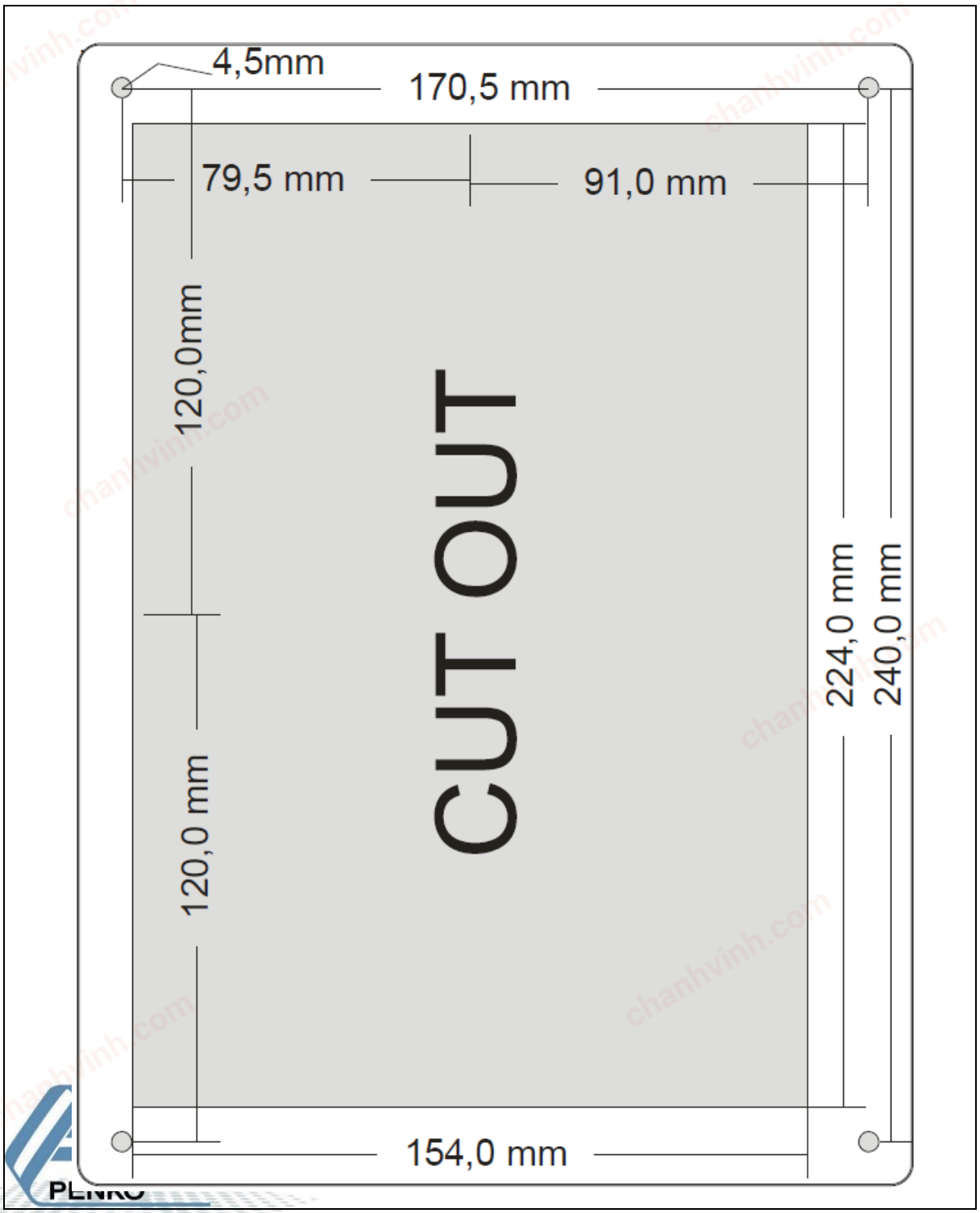
If build in a cabinet (Front)	IP 65



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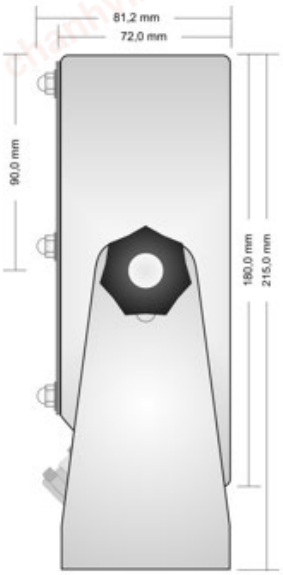

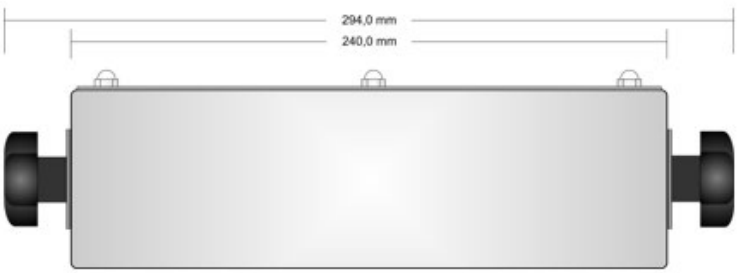

Stainless steel mount housing

Material housing	Stainless steel
Dimensions front: W x H x D	240 x 180 x 70 mm
Dimensions housing: W x H x D	280 x 200 x 70 mm (including nuts and bracket)
Weight approx.	2300 g.
Protection	IP 65

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About PENKO

At PENKO Engineering we specialize in weighing. Weighing is inherently chemically correct, independent of consistency, type or temperature of the raw material. This means that weighing any kind of material guaranties consistency and thus, it is essential to sustainable revenue generation in any industry. As a well-established and proven solution provider, we strive for the ultimate satisfaction of custom design and/or standard applications, increasing your efficiencies and saving you time, saving you money.

Whether we are weighing raw materials, components in batching, ingredients for mixing or dosing processes, - or weighing of static containers and silos, or - in-motion weighing of railway wagons or trucks, by whatever means required during a process, we are essentially forming vital linkages between processes and businesses, anywhere at any time. We design, develop and manufacture state of the art technologically advanced systems in accordance with your strategy and vision. From the initial design brief, we take a fresh approach and a holistic view of every project, managing, supporting and/or implementing your system every step of the way. Curious to know how we do it? www.penko.com

Certifications

PENKO sets high standards for its products and product performance which are tested, certified and approved by independent expert and government organizations to ensure they meet – and even – exceed metrology industry guidelines. A library of testing certificates is available for reference on:
http://penko.com/nl/publications_certificates.html

PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. Training sessions on request: **www.penko.com/training**

PENKO Alliances

PENKO's worldwide network: Australia, Brazil, China, Denmark, Germany, Egypt, Finland, France, India, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Syria, Turkey, United Kingdom, South Africa, Slovakia Sweden and Switzerland, Singapore.
A complete overview you will find on: **www.penko.com/dealers**

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